

**應用數學系碩士班**

國立臺南大學105學年度 　 　　　　　　　　 招生考試 微積分 試題卷

1. (10%) Evaluate 
2. (10%) 
3. (10%) Suppose that a state’s income tax code states that tax liability is 12% on the first $20,000 of taxable earnings and 16% on the remainder. Find constants  and  for the tax function



such that  is continuous for all .

1. (10%) Show that  has both a local maximum and a local minimum if .
2. (10%) Let , compute 
3. (20%) Evaluate the following series
4. (10%) Evaluate the following integral
5. (10%) Find the equation of the plane that is tangent to the surface

at the point

1. (10%) Find the volume of the solid of revolution formed by rotating about the x-axis each region bounded by the following curves.